IN THE CLAIMS:

Please amend the claims as follows. The claims are in the format required by 35 C.F.R. §1.121.

1. (Previously presented) A system comprising:

a digital amplifier controller;

an amplifier output stage coupled to the controller and configured to receive audio signals from the controller;

one or more sensors coupled to the output stage ; and

one or more low-pass filters coupled to the one or more sensors and configured to receive sensor signals from the one or more sensors;

wherein the low-pass filters are configured to filter the sensor signals and to provide the filtered sensor signals to the controller; and

wherein the controller is configured to provide a programmable response based on the filtered sensor signals.

2. (Currently amended) The system of claim 1,

wherein the controller comprises a pulse width modulation (PWM) controller and the output stage comprises a PWM output stage;

wherein the system further comprises one or more comparators coupled to receive analog sensor signals from corresponding ones of the sensors and configured to generate binary sensor signal which are provided to corresponding ones of the low-pass filters;

wherein each low-pass filter comprises an accumulator configured to not assert the filtered sensor signal when a value in the accumulator is below a programmable threshold and to assert the filtered sensor signal when the value in the accumulator is above the threshold;

wherein the one or more sensors comprise at least one current sensor and at least one temperature sensor, and wherein the controller is configured to detect over-current and over-temperature conditions in the output stage; and

wherein the programmable response to the filtered sensor signals is selected from the group of responses ~~consisting of: shutting down the output stage; and~~ that includes compressing at least a portion of the audio signals.

3. (Original) The system of claim 1, wherein the controller comprises a pulse width modulation (PWM) controller and the output stage comprises a PWM output stage.

4. (Original) The system of claim 3, wherein the one or more sensors comprise at least one current sensor, wherein the controller is configured to detect shoot-through current and to responsively adjust delays between a high-side signal and a low-side signal to minimize the shoot-through current.

5. (Original) The system of claim 1, further comprising one or more comparators, wherein each comparator is coupled to receive an analog sensor signal from a corresponding one of the sensors and to generate a binary sensor signal which is provided to a corresponding one of the low-pass filters.

6. (Original) The system of claim 5, wherein the one or more sensors comprise at east one current sensor.

7. (Original) The system of claim 5, wherein the one or more sensors comprise at east one temperature sensor.

8. (Currently amended) The system of claim 1, wherein the low-pass filters comprise accumulators configured to increment when the sensor output signal is asserted and to decrement when the sensor output signal is not asserted.

9. (Original) The system of claim 8, wherein the filtered sensor signal corresponding to each accumulator is not asserted when a value in the accumulator is below a threshold and is asserted when the value in the accumulator is above the threshold.

10. (Original) The system of claim 9, wherein the threshold is programmable.

11. (Previously presented) The system of claim 1, wherein the controller is configured to receive filtered sensor signals from multiple sensors and to provide responses based on each of the filtered sensor signals.

12. (Original) The system of claim 11, wherein the multiple sensors comprise at least one current sensor and at least one temperature sensor, and wherein the controller is configured to detect over-current and over-temperature conditions in the output stage.

13. (Previously presented) The system of claim 1, wherein the programmable response based on the filtered sensor signals comprises compressing at least a portion of the audio signals.

14. (Previously presented) A method comprising:
sensing a condition of an audio amplifier output stage;
providing a sensor output signal corresponding to the sensed condition;
low-pass filtering the sensor output signal to produce a filtered sensor signal;
providing the filtered sensor signal to an audio amplifier controller; and
providing a programmable response based on the filtered sensor signal.

15. (Original) The method of claim 14, wherein the audio amplifier output stage comprises a pulse width modulated (PWM) output stage and wherein sensing the condition of the output stage comprises detecting a current through a transistor of the output stage.

16. (Original) The method of claim 15, further comprising detecting a shoot-through condition in the output stage.

17. (Original) The method of claim 16, further comprising adjusting relative delays between a high-side signal and a low-side signal input to the output stage to minimize shoot-through.

18. (Original) The method of claim 14, wherein the audio amplifier output stage comprises a pulse width modulated (PWM) output stage and wherein sensing the condition of the output stage comprises detecting a temperature of a transistor of the output stage.

19. (Original) The method of claim 14, wherein the audio amplifier output stage comprises a pulse width modulated (PWM) output stage and wherein sensing the condition of the output stage comprises detecting a temperature of a heat sink of the output stage.

20. (Original) The method of claim 14, wherein providing a sensor output signal corresponding to the sensed condition comprises sensing a voltage corresponding to the sensed condition, comparing the voltage to a reference value and generating a binary signal based upon the comparison.

21. (Currently amended) The method of claim 14, wherein low-pass filtering the sensor output signal comprises incrementing an accumulator when the sensor output signal is asserted and ~~and/or~~ decrementing the accumulator when the sensor output signal is not asserted ~~an accumulator based upon the binary signal~~ and generating a signal indicative of whether a value in the accumulator is above or below a threshold value associated with the accumulator.

22. (Original) The method of claim 21, further comprising modifying the threshold value associated with the accumulator.

23. (Original) The method of claim 14, further comprising processing filtered sensor signals corresponding to multiple sensors through common logic in the controller.

24. (Previously presented) The method of claim 14, wherein providing the programmable response based on the filtered sensor signal comprises compressing at least a portion of the audio signals.